

Efficient Tm-Fiber-Pumped Ho:YLF Laser System for Coherent LIDAR Applications, Phase II

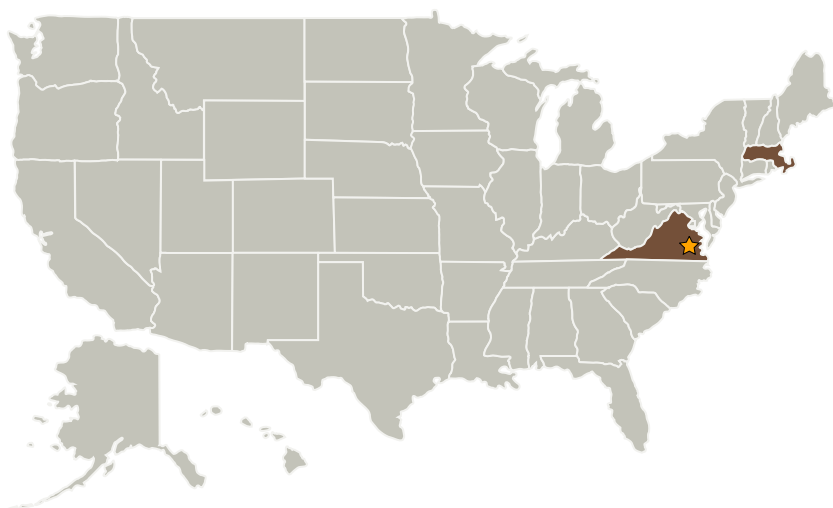
Completed Technology Project (2008 - 2011)



Project Introduction

The primary objective of the proposed Phase II program is to develop and deliver a ruggedized, compact single-frequency 2050-nm-laser system suitable for coherent LIDAR applications. Such a system uses the latest Tm:silica heavily-doped fiber technology to provide as much as 3X efficiency improvement over existing systems. An all-amplifier technology provides flexibility and stability in the generation of coherent lidar waveforms. The hybrid fiber/bulk amplifier scheme allows to combine the advantage of high small-signal gain attainable in a fiber amplifier with the advantages of a bulk crystal amplifier such as high storage efficiency, immunity to various non-linear processes and damage-free operation for pulse generation.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★ Langley Research Center (LaRC)	Lead Organization	NASA Center	Hampton, Virginia
Q-Peak, Inc.	Supporting Organization	Industry	Bedford, Massachusetts



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Langley Research Center (LaRC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Primary U.S. Work Locations

Massachusetts

Virginia

Project Transitions



December 2008: Project Start



June 2011: Closed out

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX08 Sensors and Instruments
 - └ TX08.1 Remote Sensing Instruments/Sensors
 - └ TX08.1.5 Lasers